INDEX TO VOLUME XXI.

ABDERHALDEN reaction, mechanism of, 221
Abderhalden reaction, mechanism of, and serum proteases, 239
Absorption, subcutaneous, and quantitative estimation of cholesterol, 179
Agglutination—antibody formation against *Treponema pallidum*, 576
Alcohol, phosphorus, or chloroform, hepatic lesions of, and diet, 1
ALFORD, LELAND B. See OPIE and ALFORD, I, 21
AMOSS, HAROLD L. See FLEXNER and AMOSS, 509, 515
——. See FLEXNER, NOGUCHI, and AMOSS, 91
Anaphylatoxin, nature of, 480
Anemia, experimental aplastic, of benzol poisoning, factors of coagulation in, with special reference to origin of prothrombin, 401
Anesthetics and narcotics, liver function as influenced by, 203
Animal tissues and bacteria under conditions of artificial cultivation, reactions between, 103
Anterior lobe of pituitary body, influence of, upon growth of carcinomata, 280
Antibody formation against *Treponema pallidum*—agglutination, 576
Antidysenteric serum, rapid production of, 515
Antipneumococcus serum, concentration of protective bodies in, by specific precipitation, 389
Antipneumococcus serum, distribution of immune bodies occurring in, 133
Antithrombin, test for, in blood, 338
Aplastic anemia, experimental, of benzol poisoning, factors of coagulation in, with special reference to origin of prothrombin, 401
Arsenic compounds, effect of, on Rous chicken sarcoma, 574
Artificial cultivation, reactions between bacteria and animal tissues under conditions of, 103
Atoxyl and paraminophenylarsenoxyd, experiments *in vitro* with, influence of serum upon trypanosomes with special reference to its use for, 250
Atoxyl, transformed, different amounts produced of, by incubating 1 per cent. and 10 per cent. atoxyl in blood, 258
AUER, JOHN. The functional effect of experimental intraspinal injections of sera with and without preservatives, 43
Autoplastic and homeoplastic transplantation of thyroid tissue in the guinea pig, comparison of, 164
AVERY, OSWALD T. The distribution of the immune bodies occurring in antipneumococcus serum, 133
——. See DOCHEZ and AVERY, 114

BACILLI, tubercle, new and rapid method for isolation and cultivation of, directly from sputum and feces, 38
Bacillus proteus, pathogenic properties of, 629
Bacillus tuberculosis, experimental infection of albino mice with, function of spleen in, 84
Bacteria and animal tissues under conditions of artificial cultivation, reactions between, 103
Bacteria, pure cultivation *in vivo* of vaccine virus free from, 539
BAITSELL, GEORGE A. The origin and structure of a fibrous tissue which appears in living cultures of adult frog tissues, 455
BARBOUR, HENRY G., and PRINCE, ALEXANDER L. The influence of epinephrin upon the coronary circulation of the monkey, 330
Barlow's disease experimentally produced in fetal and new-born guinea pigs, 525
BELL, E. T. See LARSON and BELL, 629
Benzol poisoning, factors of coagulation in experimental aplastic anemia of, with special reference to origin of prothrombin, 401
Biological properties of *Trypanosoma lewisi*, changes in, produced by ex-

perimental means, with special reference to virulence, 345
Blood, different amounts of transformed atoxyl produced by incubating 1 per cent. and 10 per cent. atoxyl in, 258
Blood, effect of heat on transforming and binding power of, 267
Blood, test for antithrombin in, 338
BRONFENBRENNER, J. The mechanism of the Abderhalden reaction. Studies on immunity. I, 221
——. The nature of anaphylatoxin. Studies on immunity. II, 480
BROWN, WADE H. Concerning changes in the biological properties of *Trypanosoma lewisi* produced by experimental means, with especial reference to virulence, 345
BURNETT, THEODORE C. See ROBERTSON and BURNETT, 280

CARCINOMATA, influence of anterior lobe of pituitary body upon growth of, 280
Cells, epithelial, normal and regenerating, of the rat and guinea pig, proliferative power of, 193
CHICKERING, HENRY T. See GAY and CHICKERING, 389
Chloroform, phosphorus, or alcohol, hepatic lesions of, and diet, 1
Chloroform poisoning, late, resistance of pups to, in its relation to liver glycogen, 185
Chloroform, potassium chromate, or uranium nitrate, nephritis caused by, and diet, 21
Cholesterol, subcutaneous absorption and quantitative estimation of, 179
Chromate, potassium, uranium nitrate, or chloroform, nephritis caused by, and diet, 21
Chronic uranium nephritis, histogenesis of, with especial reference to epithelial regeneration, 425
Circulation, coronary, of monkey, influence of epinephrin on, 330
Circulation in the pneumonic lung, and *intra vitam* staining in experimental pneumonia, 311
Coagulation in experimental aplastic anemia of benzol poisoning, factors of, with special reference to origin of prothrombin, 401
COHN, ALFRED E., FRASER, FRANCIS R., and JAMIESON, ROSS A. The influence of digitalis on the T wave of the human electrocardiogram, 593
Coronary circulation of monkey, influence of epinephrin on, 330
CORPER, HARRY J. Notes on the subcutaneous absorption and the quantitative estimation of cholesterol, 179
Corpuscles, red, extracellular relation of the parasites to. Adult tertian malarial parasites attached to peripheral corpuscular mounds, 584
Cortex, visual, its histological structure, localization, and physiological function, 617
Cultivated microörganism from poliomyelitic tissues, survival and virulence of, 91
Cultivation and isolation of tubercle bacilli directly from sputum and feces, new and rapid method for, 38
Cultivation, artificial, reactions between bacteria and animal tissues under conditions of, 103
Cultivation of *Treponema pallidum*, 213
Cultivation, pure, *in vivo*, of vaccine virus free from bacteria, 539
Cultures, living, of adult frog tissues, origin and structure of a fibrous tissue which appears in, 455

DIET and the hepatic lesions of chloroform, phosphorus, or alcohol, 1
Diet and the nephritis caused by potassium chromate, uranium nitrate, or chloroform, 21
Diet, influence of, upon necrosis caused by hepatic and renal poisons, 1, 21
Diffusion and survival of poliomyelitic virus, 509
Digitalis, influence of, on T wave of human electrocardiogram, 593
Diphtheroids, wide-spread distribution of, and their occurrence in various lesions of human tissues, 493
DOCHEZ, A. R., and AVERY, O. T. Varieties of pneumococcus and their relation to lobar pneumonia, 114
DRINKER, C. K. See HURWITZ and DRINKER, 401

EGGSTEIN, A. A. See JOBLING, EGGSTEIN, and PETERSEN, 239
Electrocardiogram, human, influence of digitalis on T wave of, 593
Epidermis of the rat and guinea pig, relation between structure of, and proliferative power of normal and regenerating epithelial cells of the same species, 193

Epinephrin, influence of, on coronary circulation of monkey, 330
Epithelial cells, normal and regenerating, of the rat and guinea pig, proliferative power of, 193
Epithelial regeneration in reference to histogenesis of chronic uranium nephritis, 425
Estimation, quantitative, and subcutaneous absorption of cholesterol, 179
Etiology of goitre in brook trout. IV. Effect of feeding with fresh and stale liver, 452
Experimental aplastic anemia of benzol poisoning, factors of coagulation in, with special reference to origin of prothrombin, 401
Experimental infection of albino mice with *Bacillus tuberculosis*, function of spleen in, 84
Experimental intraspinal injections of sera with and without preservatives, functional effect of, 43
Experimental means, changes in biological properties of *Trypanosoma lewisi* produced by, with special reference to virulence, 345
Experimental pneumonia in rabbits, 304, 311, 320
Experimental pneumonia in the rabbit, effect of sensitization on lesions of, 605
Experimental pneumonia, *intra vitam* staining in, and the circulation in the pneumonic lung, 311
Experimentally produced Barlow's disease in fetal and new-born guinea pigs, 525
Experiments *in vitro* with atoxyl and paraminophenylarsenoxyd, influence of serum upon trypanosomes with special reference to its use for, 250
Extracellular relation of the parasites to the red corpuscles. Adult tertian malarial parasites attached to peripheral corpuscular mounds, 584

FECES and sputum, new and rapid method for isolation and cultivation of tubercle bacilli directly from, 38
Ferment action, studies on, 239
Fetal and new-born guinea pigs, Barlow's disease experimentally produced in, 525
Fibrous tissue which appears in living cultures of adult frog tissues, origin and structure of, 455
FLEISHER, MOYER S., and LOEB, LEO. Further investigations on the mode of action of substances inhibiting tumor growth and on immunization against these substances, 155
FLEXNER, SIMON, and AMOSS, HAROLD L. Diffusion and survival of the poliomyelitic virus, 509
——. The rapid production of antidysenteric serum, 515
FLEXNER, SIMON, NOGUCHI, HIDEYO, and AMOSS, HAROLD L. Concerning survival and virulence of the microörganism cultivated from poliomyelitic tissues, 91
Flora, intestinal, character of, mortality and growth, influence of milk feeding on, 365
FRASER, FRANCIS R. See COHN, FRASER, and JAMIESON, 593
FUNK, CASIMIR. The transplantation of tumors to foreign species, 571
——. The effect of arsenic compounds on the Rous chicken sarcoma, 574
FUNKHOUSER, EDGAR BRIGHT. The visual cortex, its localization, histological structure, and physiological function, 617

GAY, FREDERICK P., and CHICKERING, HENRY T. Concentration of the protective bodies in antipneumococcus serum by means of specific precipitation, 389
GILBERT, RUTH. See ZINSSER, HOPKINS, and GILBERT, 213
Glycogen, liver, resistance of pups to late chloroform poisoning in its relation to, 185
Goitre in brook trout, etiology of. IV. Effect of feeding with fresh and stale liver, 452
Gonococci, comparison of adult and infant types of, 289
GRAHAM, EVARTS A. The resistance of pups to late chloroform poisoning in its relation to liver glycogen, 185
Growth, mortality, and character of intestinal flora, influence of milk feeding on, 365
Growth of carcinomata, influence of anterior lobe of pituitary body upon, 280
Growth of tumors, mode of action of substances inhibiting, and immunization against these substances, 155

HARRIS, WILLIAM H., and WADE, H. WINDSOR. The wide-spread distribution of diphtheroids and

their occurrence in various lesions of human tissues, 493
Heat, effect of, on transforming and binding power of blood, 267
Hepatic and renal poisons, influence of diet upon necrosis caused by, 1, 21
Hepatic lesions of chloroform, phosphorus, or alcohol, and diet, 1
HESS, ALFRED F. A test for antithrombin in the blood, 338
HESSELBERG, CORA. A comparison of autoplastic and homeoplastic transplantation of thyroid tissue in the guinea pig, 164
Histogenesis of chronic uranium nephritis with especial reference to epithelial regeneration, 425
Histological structure, localization, and physiological function of visual cortex, 617
Homeoplastic and autoplastic transplantation of thyroid tissue in the guinea pig, comparison of, 164
HOPKINS, JOSEPH GARDNER. See ZINSSER and HOPKINS, 576
——. See ZINSSER, HOPKINS, and GILBERT, 213
HURWITZ, S. H., and DRINKER, C. K. The factors of coagulation in the experimental aplastic anemia of benzol poisoning, with special reference to the origin of prothrombin, 401

IMMUNE bodies occurring in antipneumococcus serum, distribution of, 133
Immunity reaction, part of the leucocyte in, 320
Immunity, studies on, 221, 480
Immunization against substances inhibiting growth of tumors, and mode of action of these substances, 155
In vitro experiments with atoxyl and paraminophenylarsenoxyd, influence of serum upon trypanosomes with special reference to its use for, 250
In vivo pure cultivation of vaccine virus free from bacteria, 539
Infection, experimental, of albino mice with *Bacillus tuberculosis*, function of spleen in, 84
INGIER, ALEXANDRA. A study of Barlow's disease experimentally produced in fetal and new-born guinea pigs, 525
Injections, experimental intraspinal, of sera with and without preservatives, functional effect of, 43
Intestinal flora, character of, mortality, and growth, influence of milk feeding on, 365
Intra vitam staining in experimental pneumonia, and the circulation in the pneumonic lung, 311
Intraspinal injections, experimental, of sera with and without preservatives, functional effect of, 43

JAMIESON, Ross A. See COHN, FRASER, and JAMIESON, 593
JOBLING, JAMES W., EGGSTEIN, A. A., and PETERSEN, WILLIAM. Serum proteases and the mechanism of the Abderhalden reaction. Studies on ferment action. XX, 239

KIRKBRIDE, MARY BUTLER. A study of the effect of sensitization on the development of the lesions of experimental pneumonia in the rabbit, 605
KLINE, B. S., and WINTERNITZ, M. C. Studies upon experimental pneumonia in rabbits. VII. The production of lobar pneumonia, 304
——. Studies upon experimental pneumonia in rabbits. VIII. *Intra vitam* staining in experimental pneumonia, and the circulation in the pneumonic lung, 311
KLINE, B. S. See WINTERNITZ and KLINE, 320

LARSON, W. P., and BELL, E. T. A study of the pathogenic properties of *Bacillus proteus*, 629
LAWSON, MARY R. Adult tertian malarial parasites attached to peripheral corpuscular mounds. The extracellular relation of the parasites to the red corpuscles, 584
Lesions, hepatic, of chloroform, phosphorus, or alcohol, and diet, 1
Lesions of experimental pneumonia in the rabbit, effect of sensitization on, 605
Lesions, various, of human tissues, wide-spread distribution of diphtheroids and their occurrence in, 493
Leucocyte, part of, in immunity reaction, 320
LEWIS, PAUL A., and MARGOT, ARTHUR GEORGES. The function of the spleen in the experimental infection of albino mice with *Bacillus tuberculosis*. Second paper, 84
Lewisi, Trypanosoma, changes in biological properties of, produced by

experimental means, with special reference to virulence, 345
Liver, fresh and stale, effect of feeding with, in relation to etiology of goitre in brook trout, 452
Liver function as influenced by anesthetics and narcotics, 203
Liver glycogen, resistance of pups to late chloroform poisoning in its relation to, 185
Living cultures of adult frog tissues, origin and structure of a fibrous tissue which appears in, 455
Lobar pneumonia, production of, in rabbits, 304
Lobar pneumonia, relation of, to varieties of pneumococcus, 114
Lobe, anterior, of pituitary body, influence of, upon growth of carcinomata, 280
LOEB, LEO. See FLEISHER and LOEB, 155
Lung, pneumonic, circulation in, and *intra vitam* staining in experimental pneumonia, 311
LYALL, HAROLD W. The types of pneumococci in tuberculous sputum, 146

MALARIAL parasites, adult tertian, attached to peripheral corpuscular mounds. Extracellular relation of the parasites to the red corpuscles, 584
MARGOT, ARTHUR GEORGES. See LEWIS and MARGOT, 84
MARINE, DAVID. Observations on the etiology of goitre in brook trout. IV. The effect of feeding with fresh and stale liver, 452
Mechanism of Abderhalden reaction, 221
Mechanism of Abderhalden reaction and serum proteases, 239
Microörganism cultivated from poliomyelitic tissues, survival and virulence of, 91
Milk feeding, influence of, on mortality and growth, and on character of intestinal flora, 365
Mounds, peripheral corpuscular, adult tertian malarial parasites attached to. Extracellular relation of the parasites to the red corpuscles, 584

NARCOTICS and anesthetics, liver function as influenced by, 203
Necrosis caused by hepatic and renal poisons, influence of diet upon, 1, 21
Nephritis caused by potassium chromate, uranium nitrate, or chloroform, and diet, 21
Nephritis, chronic uranium, histogenesis of, with especial reference to epithelial regeneration, 425
New-born and fetal guinea pigs, Barlow's disease experimentally produced in, 525
Nitrate, uranium, potassium chromate, or chloroform, nephritis caused by, and diet, 21
NOGUCHI, HIDEYO. Pure cultivation *in vivo* of vaccine virus free from bacteria, 539
——. See FLEXNER, NOGUCHI, and AMOSS, 91

OLIVER, JEAN. The histogenesis of chronic uranium nephritis with especial reference to epithelial regeneration, 425
OPIE, EUGENE L., and ALFORD, LELAND B. The influence of diet upon necrosis caused by hepatic and renal poisons. Part I. Diet and the hepatic lesions of chloroform, phosphorus, or alcohol, 1
——. The influence of diet upon necrosis caused by hepatic and renal poisons. Part II. Diet and the nephritis caused by potassium chromate, uranium nitrate, or chloroform, 21

PALLIDUM, Treponema, antibody formation against—agglutination, 576
Pallidum, Treponema, cultivation of, 213
Paraminophenylarsenoxyd and atoxyl, experiments *in vitro* with, influence of serum upon trypanosomes with special reference to its use for, 250
Parasites, adult tertian malarial, attached to peripheral corpuscular mounds. Extracellular relation of the parasites to the red corpuscles, 584
Pathogenic properties of *Bacillus proteus,* 629
PEARCE, LOUISE. A comparison of adult and infant types of gonococci, 289
Peripheral corpuscular mounds, adult tertian malarial parasites attached to. Extracellular relation of the parasites to the red corpuscles, 584
PETERSEN, WILLIAM. See JOBLING, EGGSTEIN, and PETERSEN, 239

PETROFF, S. A. A new and rapid method for the isolation and cultivation of tubercle bacilli directly from the sputum and feces, 38
Phosphorus, chloroform, or alcohol, hepatic lesions of, and diet, 1
Physiological function, histological structure, and localization of visual cortex, 617
Pituitary body, influence of anterior lobe of, upon growth of carcinomata, 280
Pneumococci in tuberculous sputum, types of, 146
Pneumococcus, varieties of, and their relation to lobar pneumonia, 114
Pneumonia, experimental, in rabbits, 304, 311, 320
Pneumonia, experimental, in the rabbit, effect of sensitization on lesions of, 605
Pneumonia, experimental, *intra vitam* staining in, and the circulation in the pneumonic lung, 311
Pneumonia, lobar, production of, in rabbits, 304
Pneumonia, lobar, relation of, to varieties of pneumococcus, 114
Poisoning, benzol, factors of coagulation in experimental aplastic anemia of, with special reference to origin of prothrombin, 401
Poisoning, late chloroform, resistance of pups to, in its relation to liver glycogen, 185
Poisons, renal and hepatic, influence of diet upon necrosis caused by, 1, 21
Poliomyelitic tissues, survival and virulence of microörganism cultivated from, 91
Poliomyelitic virus, diffusion and survival of, 509
Potassium chromate, uranium nitrate, or chloroform, nephritis caused by, and diet, 21
Precipitation, specific, concentration of protective bodies in antipneumococcus serum by, 389
Preservatives, functional effect of experimental intraspinal injections of sera with and without, 43
PRINCE, ALEXANDER L. See BARBOUR and PRINCE, 330
Proliferative power of normal and regenerating epithelial cells of the rat and guinea pig, 193
Proteases, serum, and mechanism of Abderhalden reaction, 239
Protective bodies in antipneumococcus serum, concentration of, by specific precipitation, 389
Proteus, Bacillus, pathogenic properties of, 629
Prothrombin, factors of coagulation in experimental aplastic anemia of benzol poisoning, with special reference to origin of, 401
Pure cultivation *in vivo* of vaccine virus free from bacteria, 539

RED corpuscles, extracellular relation of the parasites to. Adult tertian malarial parasites attached to peripheral corpuscular mounds, 584
Regenerating and normal epithelial cells of the rat and guinea pig, proliferative power of, 193
Regeneration, epithelial, in reference to histogenesis of chronic uranium nephritis, 425
Renal and hepatic poisons, influence of diet upon necrosis caused by, 1, 21
RETTGER, LEO F. The influence of milk feeding on mortality and growth, and on the character of the intestinal flora, 365
ROBERTSON, T. BRAILSFORD, and BURNETT, THEODORE C. The influence of the anterior lobe of the pituitary body upon the growth of carcinomata, 280
Rous chicken sarcoma, effect of arsenic compounds on, 574

SARCOMA, Rous chicken, effect of arsenic compounds on, 574
Sensitization, effect of, on development of lesions of experimental pneumonia in the rabbit, 605
Sera with and without preservatives, functional effect of experimental intraspinal injections of, 43
Serum, antidysenteric, rapid production of, 515
Serum, antipneumococcus, concentration of protective bodies in, by specific precipitation, 389
Serum, antipneumococcus, distribution of immune bodies occurring in, 133
Serum, influence of, upon trypanosomes, with special reference to its use for experiments *in vitro* with atoxyl and paraminophenylarsenoxyd, 250
Serum proteases and mechanism of Abderhalden reaction, 239
SMYTH, HENRY FIELD. The reactions between bacteria and animal tissues

under conditions of artificial cultivation, 103
SPAIN, KATE C. The relation between the structure of the epidermis of the rat and the guinea pig, and the proliferative power of normal and regenerating epithelial cells of the same species, 193
SPEED, J. S. See WHIPPLE and SPEED, 203
Spleen, function of, in experimental infection of albino mice with *Bacillus tuberculosis*, 84
Sputum and feces, new and rapid method for isolation and cultivation of tubercle bacilli directly from, 38
Sputum, tuberculous, types of pneumococci in, 146
Staining, *intra vitam*, in experimental pneumonia, and circulation in the pneumonic lung, 311
Subcutaneous absorption and quantitative estimation of cholesterol, 179
Survival and diffusion of poliomyelitic virus, 509
Survival and virulence of microörganism cultivated from poliomyelitic tissues, 91

T wave of human electrocardiogram, influence of digitalis on, 593
TERRY, B. T. The influence that serum exerts upon trypanosomes, with special reference to its use for experiments *in vitro* with atoxyl and paraminophenylarsenoxyd, 250
——. Different amounts of transformed atoxyl produced by incubating 1 per cent. and 10 per cent. atoxyl in blood, 258
——. The effect of heat on the transforming and binding power of blood, 267
Tertian malarial parasites, adult, attached to peripheral corpuscular mounds. Extracellular relation of the parasites to the red corpuscles, 584
Thyroid tissue in the guinea pig, comparison of autoplastic and homeoplastic transplantation of, 164
Tissue, fibrous, which appears in living cultures of adult frog tissues, origin and structure of, 455
Tissue, thyroid, in the guinea pig, comparison of autoplastic and homeoplastic transplantation of, 164
Tissues, animal, and bacteria under conditions of artificial cultivation, reactions between, 103
Tissues, human, various lesions of, wide-spread distribution of diphtheroids and their occurrence in, 493
Tissues, poliomyelitic, survival and virulence of microörganism cultivated from, 91
Transplantation, autoplastic and homeoplastic, of thyroid tissue in the guinea pig, comparison of, 164
Transplantation of tumors to foreign species, 571
Treponema pallidum, antibody formation against—agglutination, 576
Treponema pallidum, cultivation of, 213
Trypanosoma lewisi, changes in biological properties of, produced by experimental means, with special reference to virulence, 345
Trypanosomes, influence of serum upon, with special reference to its use for experiments *in vitro* with atoxyl and paraminophenylarsenoxyd, 250
Tubercle bacilli, new and rapid method for isolation and cultivation of, directly from sputum and feces, 38
Tuberculosis, Bacillus, experimental infection of albino mice with, function of spleen in, 84
Tuberculous sputum, types of pneumococci in, 146
Tumor growth, mode of action of substances inhibiting, and immunization against these substances, 155
Tumors, transplantation of, to foreign species, 571

URANIUM nephritis, chronic, histogenesis of, with especial reference to epithelial regeneration, 425
Uranium nitrate, potassium chromate, or chloroform, nephritis caused by, and diet, 21

VACCINE virus free from bacteria, pure cultivation *in vivo* of, 539
Virulence and changes in biological properties of *Trypanosoma lewisi* produced by experimental means, 345
Virulence and survival of microörganism cultivated from poliomyelitic tissues, 91
Virus, poliomyelitic, diffusion and survival of, 509
Virus, vaccine, free from bacteria, pure cultivation *in vivo* of, 539
Visual cortex, its histological struc-

ture, localization, and physiological function, 617

WADE, H. WINDSOR. See HARRIS and WADE, 493

WHIPPLE, G. H., and SPEED, J. S. Liver function as influenced by anesthetics and narcotics, 203

WINTERNITZ, M. C., and KLINE, B. S. Studies upon experimental pneumonia in rabbits. IX. The part of the leucocyte in the immunity reaction, 320

WINTERNITZ, M. C. See KLINE and WINTERNITZ, 304, 311

ZINSSER, HANS, and HOPKINS, JOSEPH GARDNER. Antibody formation against *Treponema pallidum* —agglutination, 576

ZINSSER, HANS, HOPKINS, J. G., and GILBERT, RUTH. Notes on the cultivation of *Treponema pallidum*, 213